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     (FILE 'HOME' ENTERED AT 12:48:49 ON 18 MAY 2004)
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L1     1 S PEEK/CN
         SEL NAME L1
     FILE 'CA' ENTERED AT 13:00:22 ON 18 MAY 2004
L2   975 S (PLASTIC OR TEFLON OR PTFE OR POLYTETRAFLUOROETHYLENE OR POLY
         TETRAFLUOROETHYLENE OR PEEK OR L1 OR E1-94)(6A)(STIR? OR AGITAT? OR
         MIXER OR IMPELLER OR MIXING(2A)(DEVICE OR ELEMENT OR BLADE))
L3   710 S L2 NOT PY>1998
L4   428 S (PLASTIC OR TEFLON OR PTFE OR POLYTETRAFLUOROETHYLENE OR POLY
         TETRAFLUOROETHYLENE OR PEEK OR L1 OR E1-94)(2A)(STIR? OR AGITAT? OR
         MIXER OR IMPELLER OR MIXING(2A)(DEVICE OR ELEMENT OR BLADE))
L5   314 S L3 AND L4
L6   108 S L5 AND (APPARATUS OR DEVICE)(2A)(STIR? OR AGITAT? OR MIXER OR
         IMPELLER OR MIXING)
L7    78 S L3 AND (APPARATUS OR DEVICE)(2A)(STIR? OR AGITAT? OR MIXER OR
         IMPELLER OR MIXING) NOT L6
L8   166 S L3 AND(REACTOR OR CATALY? OR VESSEL OR FLASK OR SHAFT)
L9   318 S L6-8
L10  297 S L9 NOT(MAGNETIC(1A)(STIRRER OR AGITATOR OR MIXER) OR BATTERY)
L11  252 S L10 NOT((CONDUCTING OR WASTE)(1A)PLASTIC OR EXTRUDER OR
         SIMULATION)
L12    1 S (PLASTIC OR TEFLON OR PTFE OR POLYTETRAFLUOROETHYLENE OR POLY
         TETRAFLUOROETHYLENE OR PEEK OR L1 OR E1-94)(2A)((STIR? OR AGITAT? OR
         MIXER OR IMPELLER OR MIXING)(2A)PADDLE)
L13  227 S L11 NOT (FUEL CELL OR SCREW)
L14   25 S L11 NOT L13
L15    1 S L14 AND FLASK
L16  392 S L3 NOT L9
L17   98 S (STIR? OR AGITAT? OR MIXER OR IMPELLER OR MIXING(2A)(DEVICE OR
         ELEMENT OR BLADE))/TI,IT,ST AND L16
L18   75 S L17 NOT(SCREW OR EXTRU? OR MAGNETIC)
L19   70 S L18 NOT(BATTERY OR SIMULATION)
L20  298 S L13,L15,L19

=> d bib,ab l20 1-298

L20  ANSWER 15 OF 298  CA  COPYRIGHT 2004 ACS on STN
AN   127:263161  CA
TI   A modified glass reactor for the preparation of linear and star-
     branched block copolymers via living anionic polymerization
AU   Storey, R. F.; Nelson, M. E.
CS   Department of Polymer Science, The University of Southern Mississippi,
     Hattiesburg, MS, 39406-0076, USA
SO   Journal of Applied Polymer Science (1997), 66(1), 151-159
AB   A modular high-vacuum system for large-scale anionic polymn. reactions
     was designed that utilizes mech. agitation in place of magnetic
     stirring, Teflon Rotoflo stopcocks in place of glass breakseals, and
     spherical o-ring joints in place of direct glass seals.  A std. reactor
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body was used, and depending upon **reactor** design, it was fitted with appropriate reactant ampules, volumetric charging cylinders, etc., to facilitate polymn., blocking reactions, and linking reactions with minimal effort. To demonstrate the efficacy of the system a no. of linear and three-arm star-block copolymers comprised of oligostyrene outer blocks and polybutadiene inner blocks were synthesized. The block copolymers were characterized by narrow mol. wt. dispersity, and the star polymers showed greater than 95% linking efficiency. The polybutadiene blocks contained approx. 40% 1,2-enchainment and were exhaustively hydrogenated using H and a Ni octoate/Et3Al **catalyst**.

L20 ANSWER 35 OF 298 CA COPYRIGHT 2004 ACS on STN
AN 124:32387 CA
TI Hydrolysis of sucrose by conventional and microwave heating in stirred tank **reactor**
AU Plazl, I.; Leskovsek, S.; Koloini, T.
CS Department of Chemistry and Chemical Technology, University of Ljubljana, Ljubljana, 61001, Slovenia
SO Chemical Engineering Journal (Lausanne) (1995), 59(3), 253-7
AB The kinetics of hydrolysis of sucrose to fructose and glucose under **catalysis** by the strongly acidic cation-exchange resin Amberlite 200C in R-H form was investigated in thermal and microwave fields using a std. lab. stirred tank **reactor**. A **Teflon stirrer** was used to eliminate the mass transport resistance and to assure a homogeneous reaction temp. which was accurately measured by a specially designed Ni-Cr-Ni thermocouple. A Teflon water cooling coil was used for maintaining const. temp. in the **reactor** during microwave irradn. The rate consts. for the reaction at various temps. were measured in expts. conducted in a water bath, and the Arrhenius parameters were calcd. No rate enhancements or decreases in reaction time were obsd. when reactions were carried out under microwave irradn. at the same reaction temp. The reaction kinetics in thermal and microwave fields did not differ.

L20 ANSWER 37 OF 298 CA COPYRIGHT 2004 ACS on STN
AN 123:260234 CA
TI Hydrolysis of sucrose by conventional and microwave heating in stirred tank **reactor**
AU Plazl, Igor; Leskovsek, Sasa; Koloini, Tine
CS Department of Chemical Engineering, University of Ljubljana, Ljubljana, 61001, Slovenia
SO IChemE Res. Event--Eur. Conf. Young Res. Chem. Eng., 1st (1995), Volume 1, 502-4 Publisher: Inst. Chem. Eng., Rugby, UK.
AB The kinetics of hydrolysis of sucrose under **catalysis** by a strongly acidic cation-exchange resin in R-H form was investigated in thermal and microwave fields using a std. lab. stirred tank **reactor**. A **Teflon stirrer** was used to eliminate mass transport resistance and to assure a homogeneous reaction temp. which was accurately measured by a specially designed Ni-Cr-Ni thermocouple. A Teflon water cooling coil was used for maintaining a const. temp. in the **reactor** during microwave irradn. The rate consts. for the reaction were measured in expts. conducted in a water bath, and the Arrhenius parameters were calcd. No rate

enhancements were obsd. when reactions were carried out under microwave irradn. at the same reaction temp. It was shown again that reaction kinetics in thermal and microwave fields did not differ.

L20 ANSWER 48 OF 298 CA COPYRIGHT 2004 ACS on STN
AN 121:303311 CA
TI Organosolv pulping. VII. Delignification selectivity of formic acid pulping of Eucalyptus grandis
AU Erismann, Norma de M.; Freer, Juanita; Baeza, Jaime; Duran, Nelson
CS Inst. Quim., Univ. Estadual Campinas, Campinas, 970, Brazil
SO Bioresource Technology (1994), 47(3), 247-56
AB Eucalyptus grandis wood was ca. 80% delignified in 79-92% (vol./vol.) HCOOH contg. 0.22% (w/v) HCl as a **catalyst** under reflux and mech. stirring for 90 min. Pulps obtained under these conditions had pulp yield, Kappa no., and Klason lignin in the ranges of 44-52%, 30-40, and 8-10%, resp. The presence of water in the expts. with the more dild. HCOOH concn. (79%) showed a beneficial effect on the pulp fiber length and pulp yield. HCOOH sawdust treatments were carried out under the best chip pulping conditions. Plots of yield vs. lignin loss showed comparable delignification selectivity for sawdust and chips. The most selective pulping expts. were those with 79% HCOOH employing a mech. **stirrer** blade of **PTFE** and those with 99% HCOOH using a stainless steel blade.

L20 ANSWER 55 OF 298 CA COPYRIGHT 2004 ACS on STN
AN 120:220033 CA
TI Carbon fiber-reinforced **plastic impellers**
IN Iio, Hikari
PA Nissan Motor, Japan
SO Jpn. Kokai Tokkyo Koho, 15 pp.
PI JP 06042302 A2 19940215 JP 1992-197261 19920723
PRAI JP 1992-197261 19920723
AB The title impellers, with good heat resistance and mech. strength, are prepd. from PEEK, polyetherketone, polyetherketone-polyetherimide blend, or polyether-nitrile contg. 20-40% carbon fibers or polyetherimide, polyethersulfone, or polyamideimide contg. 25-40% carbon fibers.

L20 ANSWER 75 OF 298 CA COPYRIGHT 2004 ACS on STN
AN 115:74022 CA
TI Dynamic **mixers** turn more to reinforced **plastics**
AU Salzman, Ronald N.; Webster, Walter C.; Weetman, Ronald J.
CS Lightnin, Rochester, NY, USA
SO Chemical Engineering Progress (1991), 87(6), 39-44
AB The use of reinforced **plastics** in **mixers** as **impellers** is discussed. The principal force for using reinforced plastics is the cost advantage.. The A6000 impeller produces more flow/h than any other mixing impeller; the A410 is tailored to perform efficiently over a wide range of fluid viscosities.

L20 ANSWER 87 OF 298 CA COPYRIGHT 2004 ACS on STN

AN 111:133999 CA
TI Photochemical chlorination of pyridine with **agitation** of the gaseous reaction mixture
IN Kamei, Noboru
PA Daicel Chemical Industries, Ltd., Japan
SO Eur. Pat. Appl., 4 pp.
PI EP 311050 A2 19890412 EP 1988-116493 19881005
US 5141608 A 19920825 US 1991-719669 19910624
PRAI JP 1987-256104 19871009
AB 2-Chloropyridine (I) and 2,6-dichloropyridine (II) are prepd. by gas-phase chlorination of pyridine (III) under UV irradn., with agitation of the reaction gas mixt. or by recirculation of the mixt. with a blower. This method gives yields as much as several times those of prior methods, and enables long-lasting, stable operation without problems such as clogging. A 5-L app. with a 100 W high-pressure Hg arc lamp and **Teflon agitator** at 200 rpm was fed at 130° with III 900, H2O (diluent) 410, and Cl 88 g/h to give 83.6% conversion of III and 95.5% reaction of Cl fed; the product, obtained at 620 g/h, contained I 80.6, II 34.0, and III 14.8 g/h. An identical run without agitation gave 26.4% conversion and 39% reaction of Cl, with product contg. I 11.0, II 24.1, and III 66.2 g/h.

L20 ANSWER 91 OF 298 CA COPYRIGHT 2004 ACS on STN
AN 110:137575 CA
TI A new mixer for the chemical process industries
AU Salzman, R. N.; Webster, W.; Muratore, G.; Page, P. K.
CS Mix. Equip. Co., Rochester, NY, USA
SO Proceedings of the European Conference on Mixing (1988), 6th, 79-84
AB A composite mixer **shaft** and impeller are presented that give better performance than the metal alternative. The mech. design of these units combines aerospace structural concepts with chem. process industry experience for the resin system. A decrease of structural wt. is achieved with the fiber-reinforced plastics. A decrease in wt. enables designs with longer **shaft** lengths or higher allowable speeds. To improve mixer efficiency, impeller-design concepts were studied using a laser Doppler velocimeter, to optimize the flow per power unit vol. Thus, an impeller is developed with Proplet tips, which are similar to the winglets being used on subsonic aircraft. By shifting from metals to composites, manufg. procedures enabling efficient impeller designs are possible. The A6000 impeller produces ~20% more flow power than the most efficient metal impeller tested. This efficiency translates directly into lower operating costs for a broad range of mixer applications.

Good includes PEEK

L20 ANSWER 94 OF 298 CA COPYRIGHT 2004 ACS on STN
AN 109:233262 CA
TI Structural composite mixers
AU Salzman, Ronald N.; Webster, Walter C.; Lally, Kenneth S.
CS Mixing Equip. Co., Rochester, NY, 14611, USA
SO Chemical Engineering Progress (1988), 84(11), 50-5
AB Process results, **shaft** design, material selection, abrasion resistance,

and strength/durability are discussed with respect to advantages of **mixers** that are constructed of fiber-reinforced **plastics**. Examples of applications are given.

L20 ANSWER 112 OF 298 CA COPYRIGHT 2004 ACS on STN
AN 105:46766 CA
TI Ultrafine metal cobalt particle dispersion
IN Kohitsu, Masamichi; Kondo, Sei
PA Nissan Chemical Industries, Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
PI JP 61069906 A2 19860410 JP 1984-191942 19840913
PRAI JP 1984-191942 19840913
AB Co carbonyl compd. in an org. solvent is placed in a reaction **vessel** made of inert material(s), and is thermally decompd. The inert material(s) are preferably selected from polytetrafluoroethylene, polytrifluorochloroethylene, perfluoroalkyl vinyl ether-tetrafluoroethylene copolymer, hexafluoropropylene-tetrafluoroethylene copolymer, ethylene-tetrafluoroethylene copolymer, ethylene-trifluorochloroethylene copolymer, Al, stainless steel, and Cu. The ultrafine Co particles have high purity, and are useful as magnetic materials, superconductive materials, light and electromagnetic wave absorbing materials, photosensitive materials, semiconductors, powder metallurgy, and **catalysts**. Thus, Co2(CO)8 58, and toluene 500 g were placed in a polytetrafluoroethylene reaction **vessel**, refluxed in a N atm. at 110° with **stirring** by **polytetrafluoroethylene stirrer** to evolve CO, and allowed to cool to give an ultrafine metal Co particle dispersion (av. particle size 1400 Å).

L20 ANSWER 126 OF 298 CA COPYRIGHT 2004 ACS on STN
AN 101:133072 CA
TI Gas-tight laboratory **stirring device** needing little lubrication
IN Heering, Robert; Neumann, Hansjoachim
PA Ernst-Moritz-Arndt-Universitaet, Ger. Dem. Rep.
SO Ger. (East), 6 pp.
PI DD 203469 A1 19831026 DD 1982-237895 19820305
PRAI DD 1982-237895 19820305
AB The gas-tight lab. stirrer consists of a stirrer **shaft**, a sleeve, and sealing rings placed in the annular space between the **shaft** and sleeve. The device is made of a chem.-resistant material (esp. polytetrafluoroethylene), needs little lubrication, and is attached to the glass reaction **vessel** by using conical or flat ground joints.

L20 ANSWER 167 OF 298 CA COPYRIGHT 2004 ACS on STN
AN 89:138442 CA
TI A laboratory scale evaporative crystallizer
AU Mullin, John W.; Broul, Mirec
CS Dep. Chem. Eng., Univ. Coll., London, UK
SO Chemistry & Industry (London, United Kingdom) (1978), (7), 226-8
AB The title app. is described which can be operated under isothermal conditions and enables detn. of the effects of temp., evapn. rate, and stirrer type and speed on crystal habit size and size distribution.

The enclosed crystn. **vessel** is fitted with Perspex baffles just above a **PTFE** anchor-type **stirrer** driven by a const. speed motor. The **vessel** is heated by a mantle with heat output which can be varied according to the temp. inside the **vessel** from which the water vapor is removed by a vacuum pump via 2 condensers and protective drying tower. The system also contains a pressure-regulating contact manometer which is manually adjusted every 5 min and activates an electromagnetic valve which opens or closes the line to the pump. Expts. on K2SO4 are described.

L20 ANSWER 176 OF 298 CA COPYRIGHT 2004 ACS on STN
AN 83:107611 CA
TI Effect of stirring on the reduction current in constant potential coulometry
AU Rutkowski, Wladyslaw; Sobkowska, Aleksandra
CS Dep. Anal. Chem., Inst. Nucl. Res., Warsaw, Pol.
SO Chemia Analityczna (Warsaw, Poland) (1975), 20(2), 383-8
AB The effect of the shape and material of the stirrer, the depth of immersion, and rate and constancy of revolution on the initial current (i0) was investigated by using the redn. of U(VI) to U(IV) on a Hg electrode as an example. The best results were obtained by using a cylindrical **Teflon stirrer** with vertical cuts; in this case i0 depended little on the depth of immersion or rate of revolution. Intensive and correct stirring of the soln. can significantly decrease the time in coulometric anal. and improve the precision and accuracy of the detn.

L20 ANSWER 190 OF 298 CA COPYRIGHT 2004 ACS on STN
AN 78:149225 CA
TI Boiling rate control in vacuum distillation
AU Tilney-Bassett, Julian F.
CS Cotton Coll., Oakamoor/Stoke-on-Trent, UK
SO Chemistry & Industry (London, United Kingdom) (1973), (4), 192
AB A trouble-free distn. is achieved by using vacuum stirrer glands for vacuum distn. The std. stirrer glands are suitable for larger **flasks** and should be fitted with a **polytetrafluoroethylene** anchor-blade **stirrer**. For a small-scale app., a ball and socket joint is satisfactory, and may be fitted with a joint and screw blade. Under these conditions, 1 mm can be achieved on the vacuum gage.

L20 ANSWER 224 OF 298 CA COPYRIGHT 2004 ACS on STN
AN 67:50027 CA
TI A centrifugal stirrer for rapid mixing in square cuvets during spectrophotometric measurements
AU Conrad, Richard H.
CS Johns Hopkins Univ., Baltimore, MD, USA
SO Analytical Chemistry (1967), 39(8), 1039
AB A **Teflon** centrifugal **stirring device** is presented which provides rapid mixing in a 1-cm. sq. cuvet used in spectrophotometric titrns. and spectrophotometric detns. of initial reaction velocities. Rapid vertical and horizontal mixing is obtained with a min. of vortexing. Added aliquots are equilibrated in <1 sec.

L20 ANSWER 228 OF 298 CA COPYRIGHT 2004 ACS on STN
AN 66:106346 CA
TI Noncorrosive centrifugal pump
IN Copeland, Wayne E.
PA Aetna Chemical Corp.
SO U.S., 5 pp.
PI US 3304875 19670221 US 19650223
AB The pump housing and **impeller** are molded from polycarbonate "Lexan" **plastic.** The **shaft** is formed of Ti and it is inserted into a counterbore in the elec. motor **shaft** in axial alignment with the motor **shaft.** The pump **shaft** and motor **shaft** are coupled with pins. The end of the pump **shaft** is formed into a hexagon and fits into the hexagon aperture at the center of the impeller thus allowing the pump to be reversed without decoupling tendencies. The seal assembly includes a stationary seal mounted on the pump housing and a rotating seal which rotates with the pump **shaft.**

L20 ANSWER 273 OF 298 CA COPYRIGHT 2004 ACS on STN
AN 47:64427 CA
OREF 47:10907a
TI **Plastic stirrer** blades
AU Shellman, Vernell R.; Magerlein, Barney J.
CS Upjohn Co., Kalamazoo, MI
SO Anal. Chem. (1953), 25, 1285
AB **Teflon** (polymeric tetrafluoroethylene) was used for lab. **stirrer** blades.

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